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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,715	01/08/2002	Mikko Kanerva	915.419	5318

4955 7590 07/13/2004

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EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,715

Applicant(s)

KANERVA, MIKKO

Examiner

Raymond S Dean

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 2684

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora et al. (5,497,504) in view of Wieczorek et al. (6,125,278) and in further view of Kadoshima et al. (6,526,282).

Regarding Claim 1, Acampora teaches a method of communicating data in a cellular telecommunication network in which the available capacity is not uniformly distributed, comprising the steps of: scheduling the data communication to or from the mobile station in accordance with the available capacity of the network at the current and future locations of the mobile station (Column 3 lines 24 – 55, since the mobile station can move throughout the cluster of cells there can be, at any point in time, a current serving cell for said mobile station and a future serving cell to which said mobile station will move), wherein the data communication to or from the mobile station at the current location of the mobile station is not scheduled when the available capacity at future locations is less than that at the current location (Column 3 lines 24 – 55, the capacity of the whole cell cluster comprises the capacity at the current location or cell of the mobile station and the capacity at the other locations or cells, which are the future locations of said mobile station moving within said cell cluster), and wherein the data communication to or from the mobile station at the current location of the mobile station is scheduled when the available capacity at future locations is higher than that at the current location (Column 3 lines 24 – 55, the capacity of the whole cell cluster comprises the capacity at the current location or cell of the mobile station and the capacity at the other locations or cells, which are the future locations of said mobile station moving within said cell cluster).

Acampora does not teach tracking the locations of a mobile station moving in the cellular telecommunication network.

Wieczorek teaches tracking the locations of a mobile station moving in the cellular telecommunication network (Column 3 lines 25 – 31).

Acampora and Wieczorek both teach a wireless cellular system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tracking method taught above in Wieczorek in the wireless system of Acampora for the purpose of enabling the allocation of communication resources to accommodate differing loading conditions as mobile units move within a coverage area supported by different server sites.

Acampora in view of Wieczorek does not teach the prioritizing and delaying the mobile station.

Kadoshima teaches prioritizing and delaying the mobile station (Column 17 lines 43 – 50, the mobile station with the highest priority will be allowed to place a call first when the network is congested and the mobile stations with the lower priorities will be allowed to place a call later than or after the highest priority mobile station thus said lower priority mobile stations will be delayed in placing calls during network congestion).

Acampora in view of Wieczorek and Kadoshima teach a wireless cellular system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the prioritizing and delaying method taught in Kadoshima in the wireless system of Acampora in view of Wieczorek for the purpose of enabling a mobile user to communicate with a destination mobile terminal in an emergency despite congestion in the wireless network.

Regarding Claim 2, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Wieczorek further teaches estimating the future locations of the mobile station on the basis of the locations tracked in the tracking step (Column 3 lines 56 – 64).

Regarding Claim 3, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Wieczorek further teaches estimating the future locations of the mobile station on the basis of route information about the moving mobile station provided by the mobile station (Column 3 lines 32 – 37).

Regarding Claim 4, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Wieczorek further teaches estimating (S12) the future locations of the mobile station on the basis of movement patterns of the mobile station (Column 3 lines 56 – 64, the location history is a history of the movement patterns of the mobile station).

Regarding Claim 5, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Wieczorek further teaches estimating (S13) the available capacity of the network at the current and future locations of the mobile station on the basis of an estimated current and future traffic load distribution of the network in the area in which and towards the mobile station is moving (Column 2 lines 64 – 67, Column 3 line 1, Column 3 lines 65 – 67, the system estimates the loading conditions at the future site such that there will be proper allocation of communication resources).

Regarding Claim 6, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 5. Acampora further teaches wherein the area comprises cells, groups of cells, geographical areas and network nodes (Figure 1, the base stations (17a – 17n) are the network nodes).

Regarding Claim 7, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Wieczorek further teaches estimating (S3) the data communication needs of the mobile station (Column 3 lines 65 – 67).

Regarding Claim 8, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 7. Acampora further teaches the data communication needs exceed a specific amount of data to be communicated (Column 3 lines 37 – 47, if the data communication needs exceed a specific amount of data to be communicated some or all of the conditions (1 – 4) will not be met thus the mobile unit will not be admitted).

Regarding Claim 9, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 5. Wieczorek further teaches wherein the mobile station executes measurements of the traffic load distribution in the area and along the path in which it is moving (Column 4 lines 27 – 31, subscriber environment information comprises traffic load), and wherein the available capacity of the current and future locations of the mobile station is estimated on the basis of the measurement results (Column 3 lines 31 – 37).

Regarding Claim 10, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 7. Acampora further teaches buffering data transmitted to and from the mobile station (1) (Column 4 lines 40 – 48, the mobile unit can transmit and receive packets of data thus there must be a buffer for said data packets), wherein the estimation of the data communication needs of the mobile station (1) is performed by monitoring the amount of buffered data (Column 3 lines 37 – 47, if the amount of data packets exceeds a specific level some or all of the conditions (1 – 4) will not be met thus the mobile unit will not be admitted).

Regarding Claim 11, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 7. Acampora further teaches wherein the data communication needs of the mobile station are estimated on the basis of a transmission request from the mobile station (Column 3 lines 31 – 37, the data communication needs must meet the conditions (1 – 4) or the mobile unit will not be admitted).

Regarding Claim 12, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 9. Wieczorek further teaches wherein the mobile station executes the measurements according to traffic load distribution information received from the network (Column 4 lines 27 – 31, the subscriber environment information comprises traffic load).

Regarding Claim 13, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 1. Acampora further teaches wherein a plurality of mobile stations each having data communication needs

are present in the network, and wherein the data communications of the plurality of mobile stations are scheduled in accordance with the available capacity of the network (Column 3 lines 24 – 55).

Regarding Claim 14, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 13. Acampora further teaches wherein the data communications of the plurality of mobile stations are scheduled in accordance with estimated data communication needs of these mobile stations (Column 3 lines 31 – 37, the data communication needs must meet the conditions (1 – 4) or the mobile unit will not be admitted).

Regarding Claim 15, Acampora teaches a telecommunication system for communicating data in a cellular telecommunication network in which the available capacity is not uniformly distributed, comprising: control means communicating with a mobile station and the cellular telecommunication network, for scheduling the data communication to or from the mobile station in accordance with the available capacity of the network at the current and future locations of the mobile station (Column 3 lines 24 – 55, there is a cluster of cells thus there will be current and future locations), wherein the data communication to or from the mobile station at the current location of the mobile station is not scheduled by the control means when the available capacity at future locations is less than that at the current location (Column 3 lines 24 – 55, the capacity of the whole cell cluster comprises the capacity at the current location or cell of the mobile station and the capacity at the other locations or cells, which are the future locations of said mobile station moving within said cell cluster), and wherein the data

communication to or from the mobile station at the current location of the mobile station is scheduled by the control means when the available capacity at future locations is higher than that at the current location (Column 3 lines 24 – 55, the capacity of the whole cell cluster comprises the capacity at the current location or cell of the mobile station and the capacity at the other locations or cells, which are the future locations of said mobile station moving within said cell cluster).

Acampora does not teach a control means for tracking the locations of a mobile station moving in the cellular telecommunication network.

Wieczorek teaches a control means for tracking the locations of a mobile station moving in the cellular telecommunication network (Column 3 lines 25 – 31).

Acampora and Wieczorek both teach a wireless cellular system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the tracking method taught above in Wieczorek in the wireless system of Acampora for the purpose of enabling the allocation of communication resources to accommodate differing loading conditions as mobile units move within a coverage area supported by different server sites.

Acampora in view of Wieczorek does not teach the prioritizing and delaying the mobile station.

Kadoshima teaches prioritizing and delaying the mobile station (Column 16 lines 46 – 48, the mobile station with the highest priority will be allowed to place a call first when the network is congested and the mobile stations with the lower priorities will be

allowed to place a call later than or after the highest priority mobile station thus said lower priority mobile stations will be delayed in placing calls during network congestion).

Acampora in view of Wieczorek and Kadoshima teach a wireless cellular system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the prioritizing and delaying method taught in Kadoshima in the wireless system of Acampora in view of Wieczorek for the purpose of enabling a mobile user to communicate with a destination mobile terminal in an emergency despite congestion in the wireless network.

Regarding Claim 16, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Wieczorek further teaches the control means estimating the future locations of the mobile station on the basis of tracked locations (Column 3 lines 56 – 64).

Regarding Claim 17, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Wieczorek further teaches the control means estimating the future locations of the mobile station on the basis of route information about the moving mobile station provided by the mobile station (Column 3 lines 32 – 37, lines 56 - 64).

Regarding Claim 18, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Wieczorek further teaches the control means estimating the future locations of the mobile station on the basis of movement patterns of the mobile station (Column 3 lines 56 – 64, the location history is a history of the movement patterns of the mobile station).

Regarding Claim 19, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Wieczorek further teaches the control means estimating the available capacity of the network at the current and future locations of the mobile station on the basis of an estimated current and future traffic load distribution of the network in the area in which and towards the mobile station is moving (Column 2 lines 64 – 67, Column 3 line 1, Column 3 lines 65 – 67, the system estimates the loading conditions at the future site such that there will be proper allocation of communication resources).

Regarding Claim 20, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 19. Acampora further teaches wherein the area comprises cells, groups of cells, geographical areas and network nodes (Figure 1, the base stations (17a – 17n) are the network nodes).

Regarding Claim 21, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Wieczorek further teaches the control means estimating the data communication needs of the mobile station (Column 3 lines 65 – 67).

Regarding Claim 22, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 21. Acampora further teaches the data communication needs exceed a specific amount of data to be communicated (Column 3 lines 37 – 47, if the data communication needs exceed a specific amount of data to be communicated some or all of the conditions (1 – 4) will not be met thus the mobile unit will not be admitted).

Regarding Claim 23, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 19. Wieczorek further teaches wherein the mobile station executes measurements of the traffic load distribution in the area and along the path in which it is moving (Column 4 lines 27 – 31, subscriber environment information comprises traffic load), and wherein the control means estimate the available capacity of the current and future locations of the mobile station on the basis of the measurement results transmitted from the mobile station to the control means (Column 3 lines 31 – 37).

Regarding Claim 24, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 21. Acampora further teaches the control means monitoring buffers for buffering data transmitted to and from the mobile station (1) (Column 4 lines 40 – 48, the mobile unit can transmit and receive packets of data thus there must be a buffer for said data packets), and estimate the data communication needs of the mobile station (1) on the basis of the monitored amount of buffered data (Column 3 lines 37 – 47, if the amount of data packets exceeds a specific level some or all of the conditions (1 – 4) will not be met thus the mobile unit will not be admitted).

Regarding Claim 25, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 21. Acampora further teaches wherein the control means estimate the data communication needs of the mobile station on the basis of a transmission request from the mobile station (Column 3

lines 31 – 37, the data communication needs must meet the conditions (1 – 4) or the mobile unit will not be admitted).

Regarding Claim 26, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 23. Wieczorek further teaches wherein the mobile station executes the measurements according to traffic load distribution information received from the network (Column 4 lines 27 – 31, the subscriber environment information comprises traffic load).

Regarding Claim 27, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 15. Acampora further teaches wherein a plurality of mobile stations each having data communication needs are present in the network, and wherein the data communications of the plurality of mobile stations are scheduled in accordance with the available capacity of the network (Column 3 lines 24 – 55).

Regarding Claim 28, Acampora in view of Wieczorek and in further view Kadoshima teaches all of the claimed limitations recited in Claim 27. Acampora further teaches wherein the data communications of the plurality of mobile stations are scheduled in accordance with estimated data communication needs of these mobile stations (Column 3 lines 31 – 37, the data communication needs must meet the conditions (1 – 4) or the mobile unit will not be admitted).

Conclusion

4. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

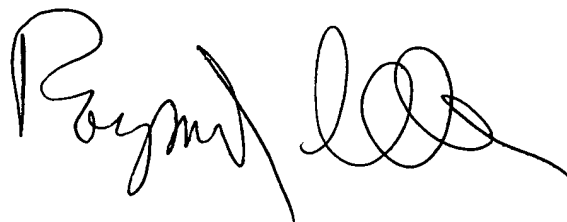
If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



NAY MAUNG
SUPERVISORY PATENT EXAMINER